INDIAN STATISTICAL INSTITUTE

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Dear Crick,

This title

Here are a few lines to congratulate you on your F.R.S. It gives
one a satisfactory feeling that one can be fairly sure of getting a job if
need be, and that someone besides old~~~~really thinks ones work has been
good. I should be fascinated to know what you are going to do next. Here
everyone thinks they would like to do your sort of work, until I give our
mathematicians the problem. "How many amino-acids can you represent with
sequences of <u>a</u> members chosen from <u>b</u> nucleotides, given that all sequences of
<u>a</u> beginning at the wrong place are nonsense?" Much more interesting to me on
your "model", if we define a unit mutation as the substitution of one purine *or pyr imidine*
in a chain, what fraction of mutations will give actual proteins ? And what
happens when you get a nonsense sequence of three ? Does this mean the end of
a peptide chain ? In other words do nonsense mutations break peptide chains ?
If so one can see at once why most mutations entail loss of function.

The work which I am getting started here is elementary biology
which might perfectly well have been done by Darwin, but wasn't . However it
is exciting enough, and may give quite fantastic increases in crop yield.
Nobody seems to know anything about variation of organs in the same plant.
In fact S.K.Roy finds that while the mean petal number (for example) may
hardly change in a season, the variance may double. However I suppose this is
less up your street than the origin of life, in Penrose's laboratory.

Dr. ~~Francis Harry Compton~~ Crick, F. R S
~~Member of the staff of the Medical~~
~~Research Council Unit for Research~~,
The Cavendish Laboratory,
  Cambridge.

Yours sincerely,

J. B S Haldane

(J.B.S.Haldane)

replied